IN THE CLAIMS:

The pending claims are set forth below and have been amended and/or cancelled, without prejudice, where noted:

1-22. (Cancelled)

19. (Currently Amended) A method for the production of an olefin polymer comprising:

(a) providing a catalyst system having a catalyst component characterized by formula I:

$$R''(CpR_q)XR'MQ_2 \quad (I)$$

wherein: Cp is a ~~substituted or unsubstituted~~ cyclopentadienyl ~~or fluorenyl~~ ring; R" is a structural bridge between Cp and X imparting stereorigidity to the component; each R is the same or different and is selected from a hydrocarbyl group having from 1-20 carbon atoms, a halogen, an alkoxy group, an alkoxyalkyl group, and alkylamino group or an alkylsilylo group and at least one group R is positioned on the Cp ring at a position distal to the bridge R", which group R comprises a bulky group of the formula ZR^*_3 in which Z is an atom from Group 14 of the Periodic Table, and each R* is the same or different and is a hydrogen or a hydrocarbyl group having from 1-20 carbon atoms; q is an integer from 0-8; X is a heteroatom from Group 15 or 16 of the Periodic Table; M is a metal atom from Group 4 of the Periodic Table; R' is a hydrogen or a hydrocarbyl having from 1-20 carbon atoms; and each Q is a hydrocarbon having from 1-20 carbon atoms or is a halogen; ~~or a catalyst component characterized by formula II: (L).sub.nM'(Q).sub.p (II) wherein: L is an heteroatom containing ligand; n is an integer of 1, 2, or 3; M' is selected from Ti, Zr, Sc, V, Cr, Fe, Co, Ni, Pd, or a lanthanide metal; each Q is independently a hydrocarbon having 1-20 carbon atoms or a halogen; and p is the valence of M' minus the sum of the coordination numbers of all L;~~ characterized in that the catalyst component comprises at least one alkyl moiety having a terminal olefin group wherein the alkyl moiety having a terminal olefin group is a substituent on at least one of R", Cp and X in the complex of~~r~~ formula I ~~or is a substituent on at least one of L and Q in the complex of formula II~~;

(b) contacting said catalyst system with at least one olefin monomer to produce an olefin polymer; and

(c) recovering said olefin polymer.

20. (Previously Presented) The method of claim 19 wherein the olefin monomer comprises ethylene or propylene.

21. (Previously Presented) The method of claim 19 wherein the alkyl moiety having a terminal olefin group comprises a substituted or unsubstituted alkyl group having from 2-20 carbon atoms.

22. (Previously Presented) The method of claim 21 wherein the alkyl moiety having a terminal olefin group comprises a ω-ethylenyl, ω-propylenyl, ω-butylenyl, ω-pentylenyl, ω-hexylenyl, ω-heptylenyl, ω-octylenyl, ω-nonylenyl or a ω-denylenyl group.

23. (Cancelled)

24. (Previously Presented) The method of claim 23 wherein at least another group R in formula I is positioned on a Cp ring at a position proximal to the bridge and non-vicinal to the group ZR^*_3.

25. (Previously Presented) The method of claim 24 wherein said another group R is characterized by the formula $YR\#_3$ wherein $YR\#_3$ comprises a methyl group or a trimethyl silyl group.

26. (Previously Presented) The method of claim 23 wherein ZR^*_3 is selected from the group consisting of $C(CH_3)_3$, $C(CH_3)_2Ph$, CPh_3 and $Si(CH_3)_3$.

27. (Previously Presented) The method of claim 23 wherein X in formula (I) is N or P.

28. (Previously Presented) The method of claim 23 wherein R" is selected from the group consisting of an alkylidene group having from 1-20 carbon atoms, a germanium group, a silicon group, a siloxane group, an alkyl phosphine group and an amine group.

29. (Previously Presented) The method of claim 28 wherein R" is selected from the group consisting of a substituted or unsubstituted ethylenyl group, an isopropylidene (Me_2C) group, a Ph_2C group and an Me_2Si group.

30. (Previously Presented) The method of claim 28 wherein M is Ti, Zr or Hf.

31. (Previously Presented) The method of claim 27 wherein Q is Cl or Me.

32. (Withdrawn) The method of claim 19 wherein said catalyst component is characterized by formula (II) wherein L is a bidentate ligand selected from: wherein: n is an integer of 2 or 3; R.sup.1, R.sup.2, R.sup.7, R.sup.8, R.sup.10, R.sup.11, R.sup.12, R.sup.13, R.sup.16 and R.sup.17 are each independently a hydrocarbyl or a substituted hydrocarbyl group; and R.sup.3, R.sup.4, R.sup.5, R.sup.6, R.sup.9, R.sup.14, R.sup.15, R.sup.18 and R.sup.19 are each independently a hydrogen, hydrocarbyl or substituted hydrocarbyl group; and wherein one or more of the following when taken together may form a ring: R.sup.3 and R.sup.4, both of R.sup.9, R.sup.5 and R.sup.7, R.sup.6 and R.sup.8, R.sup.18 and R.sup.19.

33. (Withdrawn) The method of claim 29 wherein M is selected from the group consisting of Fe and Co.

34. (Withdrawn) The method of claim 19 wherein said catalyst component is characterized by formula (II) wherein L is a tridentate ligand, having the following formula: or three monodentate ligands having the following arrangement: wherein: R.sup.1, R.sup.2, R.sup.3 and R.sup.4 are each independently a hydrogen, hydrocarbyl or substituted hydrocarbyl group.

35. (Withdrawn) The method of claim 30 wherein M is selected from the group consisting of Fe and Co.

36. (Withdrawn) The method of claim 35 wherein the olefin monomer comprises ethylene or propylene.

37. (Withdrawn) The method of claim 36 wherein the alkyl moiety having a terminal olefin group comprises a substituted or unsubstituted alkyl group having from 2-20 carbon atoms.

38. (Withdrawn) The method of claim 38 wherein the alkyl moiety having a terminal olefin group comprises a .omega.-ethylenyl, .omega.-propylenyl, .omega.-butylenyl, .omega.-pentylenyl, .omega.-hexylenyl, .omega.-heptylenyl, .omega.-octylenyl, .omega.-nonylenyl or a .omega.-denylenyl group.